

## CLAIMS:

1. A boom arrangement for use in a car wash comprising:
  - a mounting member for fixed attachment to a support;
  - a flexible hose for receiving a wash-spray device on one end of the
  - 5 hose and a water supply device at the other end of the hose,
  - a boom for supporting a substantially horizontal portion of the hose,
  - a rotatable coupling carried on the fixed mounting member for supporting an inner end of the boom so that the horizontal portion of the hose can rotate about a vertical axis in a generally horizontal plane with the remainder of the
  - 10 hose extending downwardly from the horizontal plane at an outer end of the boom;
  - and a parking arrangement for moving the coupling, the boom and the hose to a parked location at a specific angular location around the vertical axis;
  - the parking arrangement comprising a cam and a cam follower, one of the cam and the cam follower being mounted on the mounting member and the
  - 15 other on the boom such that the cam follower moves relative to the cam as the boom rotates about the vertical axis;
  - the cam follower being spring biased into engagement with the cam so as to generate a force tending to rotate the boom about the vertical axis;
  - the cam being shaped so as to define a parked position of the boom in
  - 20 which the spring bias is at a minimum potential energy and a position remote from the parked position in which the spring bias is at a maximum potential energy;
  - and the cam being shaped so as to define a substantially constant gradient in both clockwise and counterclockwise directions around the axis from the

remote position to the parked position so as to define a substantially constant parking force toward the parked position.

2. The boom arrangement according to Claim 1 wherein the remote position is spaced from the parked position by 180 degrees and the cam is symmetrical about a diameter joining the parked position and the remote position.

3. The boom arrangement according to Claim 1 wherein the parked position defines a notch in the cam.

4. The boom arrangement according to Claim 1 wherein the cam comprises a disk mounted in a horizontal plane and the cam follower engages an outer edge of the disk.

5. The boom arrangement according to Claim 1 wherein the cam follower is mounted on the rotatable coupling with the boom and the cam is mounted on the mounting member.

6. The boom arrangement according to Claim 1 wherein the rotatable coupling carries a slide arm on which the cam follower is mounted for sliding movement toward and away from the cam and wherein there is provided a spring surrounding the slide arm for biasing the cam follower toward the cam.

7. The boom arrangement according to Claim 1 wherein the boom includes a pair of flexible wires each of which includes a loop therein rotated through at least 360° arranged such that the wire can bend in a vertical bending plane down from the horizontal plane about an axis defined by said loop, said loop lying substantially in the vertical bending plane of the wire whereby bending of said wire in said vertical bending plane causes torsioning of the loop.

8. A boom arrangement for use in a car wash comprising:

a first and a second boom assembly each comprising:

a mounting member for attachment to a support;

a flexible hose for receiving a wash-spray device on one end of

5 the hose and a water supply device at the other end of the hose,

a boom for supporting a substantially horizontal portion of the

hose,

a rotatable coupling carried on the mounting member for supporting an inner end of the boom so that the horizontal portion of the hose can

10 rotate about a vertical axis in a generally horizontal plane with the remainder of the hose extending downwardly from the horizontal plane at an outer end of the boom;

and a parking arrangement for moving the coupling, the boom and the hose to a parked location at a specific angular location around the vertical axis;

15 the boom assemblies being arranged to be mounted side by side on the support with the mounting members thereof adjacent but spaced on the support such that each boom as it rotates passes underneath the mounting member of the other boom;

the parking arrangements of the boom assemblies being arranged  
20 such that in the specific angular location of the parking location of each boom assembly the boom thereof extends in a direction generally 180 degrees away from the other of the boom assemblies;

and the boom of each boom assembly being inclined downwardly and

outwardly from its rotatable coupling to its outer end spaced outwardly from its rotatable coupling such that, with one of the booms in its parked position, the other of the booms can rotate around its vertical axis while passing underneath said one boom.

5                    9.     The boom arrangement according to Claim 8 wherein the parking position of each boom assembly lies on a line joining the vertical axes of the boom assemblies.

                  10.     The boom arrangement according to Claim 8 wherein each boom includes a first sharply inclined section and a second more shallowly inclined  
10     section in which the boom is inclined downwardly and outwardly at a constant angle.

                  11.     A boom arrangement for use in a car wash comprising:

                  a mounting member for attachment to a support;

                  a flexible hose for receiving a wash-spray device on one end of the hose and a water supply device at the other end of the hose,

15                    a boom for supporting a substantially horizontal portion of the hose,

                  a rotatable swivel coupling carried on the mounting member for supporting an inner end of the boom so that the horizontal portion of the hose can rotate about a vertical axis in a generally horizontal plane with the remainder of the hose extending downwardly from the horizontal plane at an outer end of the boom;

20                    and a pivot coupling allowing pivotal movement of the boom about a generally horizontal axis transverse to the boom such that an outer end of the horizontal portion can pivot downwardly out of the horizontal plane when the hose is pulled, the pivot coupling comprising:

a bracket mounted on the rotatable coupling and extending outwardly from the vertical axis;

a pivot support at a bottom of the mounting bracket defining the horizontal axis;

5 a pivot member on the boom carried on the pivot support such that the boom can pivot about the horizontal axis;

the bracket defining an first spring receiving portion located substantially vertically above the pivot axis;

the pivot member including a second spring receiving portion for  
10 cooperation with the first spring receiving portion;

and a compression spring carried on a support rod connected between the first and second spring receiving portions such that pivotal movement of the pivot member relative to the bracket acts to compress the spring.

12. The boom arrangement according to Claim 11 wherein the rod  
15 projects through both the first and second receiving portions and there is provided a second spring such that one spring is located between the first receiving portion and the end of the rod and a second spring is located between the second receiving portion and the second end of the rod such that both springs are compressed as the pivot member pivots relative to the bracket.

20 13. The boom arrangement according to Claim 11 wherein at least a part of the rod is bent such that it follows generally an arc around the pivot axis.

14. The boom arrangement according to Claim 11 wherein the part of the rod extending from the second receiving portion to the second end of the rod

is substantially straight and parallel to the boom such that it is substantially horizontal when the boom is in its substantially horizontal raised position.

15. A boom arrangement for use in a car wash comprising:

a mounting member for attachment to a support;

5 a flexible hose for receiving a wash-spray device on one end of the hose and a water supply device at the other end of the hose,

a boom for supporting a substantially horizontal portion of the hose,

a rotatable swivel coupling carried on the mounting member for supporting an inner end of the boom so that the horizontal portion of the hose can  
10 rotate about a vertical axis in a generally horizontal plane with the remainder of the hose extending downwardly from the horizontal plane at an outer end of the boom;

a pivot coupling allowing pivotal movement of the boom about a generally horizontal axis transverse to the boom such that an outer end of the horizontal portion can pivot downwardly out of the horizontal plane when the hose is  
15 pulled;

the boom including:

a first boom portion extending outwardly from the pivot coupling;

a second boom portion;

a second rotatable swivel coupling at an outer end of the first  
20 boom portion and connecting the second boom portion to the outer end of the first boom portion;

and a spring support connected to the second swivel coupling for providing spring support of the second boom portion allowing downward flexing

movement of the second boom portion relative to the second swivel coupling.

16. The arrangement according to Claim 15 wherein the pivot coupling comprises:

5 a bracket mounted on the rotatable coupling and extending outwardly from the vertical axis;

a pivot support at a bottom of the mounting bracket defining the horizontal axis;

a pivot member on the boom carried on the pivot support such that the boom can pivot about the horizontal axis;

10 the bracket defining an first spring receiving portion located substantially vertically above the pivot axis;

the pivot member including a second spring receiving portion for cooperation with the first string receiving portion;

15 and a compression spring carried on a support rod connected between the first and second spring receiving portions such that pivotal movement of the pivot member relative to the bracket acts to compress the spring.

17. The boom arrangement according to Claim 16 wherein the rod projects through both the first and second receiving portions and there is provided a second spring such that one spring is located between the first receiving portion and  
20 the end of the rod and a second spring is located between the second receiving portion and the second end of the rod such that both springs are compressed as the pivot member pivots relative to the bracket.

18. The boom arrangement according to Claim 16 wherein at least

a part of the rod is bent such that it follows generally an arc around the pivot axis.

19. The boom arrangement according to Claim 16 wherein the part of the rod extending from the second receiving portion to the second end of the rod is substantially straight and parallel to the boom such that it is substantially horizontal when the boom is in its substantially horizontal raised position.

20. The boom arrangement according to Claim 16 wherein the spring support comprises a pair of generally parallel spring wires, each of which includes a coil which is coiled around a generally horizontal axis and a portion which extends from the coil generally horizontally therefrom.